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LIBERAL EDUCATION IN THE KOREA AIR FORCE ACADEMY

by

Nam, Sang Don

December 1988

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Liberal Education in The Korea Air Force Academy

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ABSTRACT

This study is an attempt to analyze the current educational programs of Korea Air Force Academy in terms of Liberal Education. The following two research questions are addressed: (1) What is the over-all structure of Korea Air Force Academy education and training programs? (2) What are the aspects of the current programs with regard to liberal education? Principal findings with regard to research questions are presented. Specific recommendations are also proposed as suggestions for an over-all plan of organization of the educational program.

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I. INTRODUCTION

A. BACKGROUND

The growing complexity of the Korean military has produced at least three factors making new demands on officer competence and attitudes: (1) technical sophistication of weapon systems; (2) changes in the nature of military leadership; (3) difficulty of solving policy problems. Accordingly, when we consider military technology, leadership essentials, and policy issues, the modern military profession is a demanding one. This requires officers capable of original thought and the capacity to synthesize broad areas of knowledge, analyze complex issues, and appreciate the distinction between what is theoretically possible and actually achievable. There is little place in it for the dogmatic enthusiast. Today's officer must be a knowledgeable "pro", who bases his judgments on precise knowledge and broad understanding and who keeps his mind open to new approaches and the values of new experiences. Therefore, the education of officers may be one of the most important elements for the future of both the corps and the military system.

The education or precommissioning rung of the Korean Air Force education ladder is occupied by essentially two educational programs: The Korea Air Force Academy (KAFA) and the Officer Candidate Course (OCC). Although officers from the latter source tend to be highly committed to the Air Force, they tend to have lower educational qualification. On the other hand, though numerically far from the dominant source of newly commissioned officers, the KAFA is generally viewed as a key source of career officers, because of the relatively high degree of career commitment by its graduates.

The KAFA has responded quickly in recent years to a rapidly changing military system and to a changing society. By a balanced regard for tradition and for emerging factors in national life, the academy has so altered the educational programs as to make them serve the needs of today and tomorrow. These changes, however, have been achieved within certain tradition and constraints. Accordingly, there has been an image in the minds of civilian educators and citizens generally of the career Air Force officer as one whose higher education has been severely narrow and technical. He has often been looked upon as lacking the characteristics of mind and disposition which a study

of *liberal arts* and *sciences* [1] putatively cultivates. Some have thought that however well his education prepared him for his responsibilities in operating the military establishment in time of war it had nevertheless inadequately cultivated that breadth of knowledge and flexibility of mind required to deal with the increasingly varied and rapidly changing conditions of life within which his professional responsibilities must be discharged.

The KAFA is an institution for the education and training of Air Force officers for military service. Such service is placing increasingly difficult and complicated demands upon each officer. From the KAFA we hope to graduate dedicated officers who are intellectually gifted, broadly educated, morally resolute, and capable of mature leadership under the most trying conditions.

One who reviews these findings objectively must conclude that the KAFA should make thoughtful efforts to provide a higher education for future Air Force officers which includes a balanced proportion of the technical and the liberal, the specific and the general, the intellectual and the moral. The importance of liberalizing influences for young officers are obvious.

The curriculum balance at the academy is, of course, tied in some general pattern. What kinds of a curriculum can satisfy that aim? A former Dean of the faculty at the United States Air Force Academy[2] has pointed out:

> There are two major functions which the curriculum must serve. It must offer those courses which students should study because they are, first of all, men. These courses should be in the liberal arts and sciences; this portion of the curriculum should insure a broad and liberal education. The second function which the curriculum should accomplish concerns the unique professional mission of a military institution; it should provide a number of courses which a student should study because he is going to be a professional military man. [Ref. 1: p. 337]

B. PURPOSE OF STUDY

This study is an attempt to analyze the current education and training programs of KAFA in terms of *liberal education.*

Despite the intrinsic intellectual interest of the field and policy importance, there is remarkable paucity of scholarly studies focused on the analysis of education and training of the KAFA. Not much scholarly research has dealt with issues in terms of the academic programs.

---

1 The studies (as language, philosophy, history, literature, abstract science) in a college or university intended to provide chiefly general knowledge and to develop the general intellectual capacities (as reason and judgment as opposed to professional or vocational skills).

2 Brigadier General Robert F. McDermott.

Under these circumstances, a scholarly study on the education and training programs of KAFA may become one of the most valuable studies for the institution. The focus of the study will be based on the current educational programs. Furthermore, the emphasis throughout will be on the liberal education portion of the programs.

The following two major questions will be addressed:

- What is the over-all structure of the Korean Air Force Academy education and training programs?
- What are the aspects of current programs with regard to liberal education?

C. SCOPE OF STUDY

The data used in this course of study consist of documents, official history books, and reports published by three Korean service academies and general literature on the Korean military. Because only limited quantitative information for limited use is available, the basic methodology of this study is a descriptive - comparative as well as historical study. These will be needed to answer the research questions. The author combined information from his own personal experiences and written sources to derive some judgments on the current status of and future prospect for the KAFA's education.

This study will focus its attention on KAFA's educational programs. However, based on the assumption that the service academies in each country are similar, KAFA's two sister academies (Military Academy and Naval Academy) will be considered also. Jordan supports this assumption on viewing the U.S. service academies:

> The service academies bear a distinct family relationship to each other for they have a common mission, namely, to develop the qualities of character and intellect essential to their graduates' progressive and continued development as career officers of the regular forces. [Ref. 2 : p. 217]

D. ORGANIZATION OF STUDY

Chapter 1 presents an introduction. Chapter 2 considers theoretical issues. Chapter 3 introduces some of historical considerations. Chapter 4 overviews the over-all structure of the current education and training programs of KAFA. Chapter 5 describes the liberal portion included in the education and training programs. Chapter 6 analyzes the current educational programs in terms of liberal education. In conclusion, principal findings and general recommendations with regard to research questions are prepared for the future development.

II. THEORETICAL CONSIDERATIONS

This chapter is intended to review some of the literature relevant to the study. It is mainly focused on the fundamental definitions of several key concepts. The first section deals with general agreement about a liberal education. These two major questions are addressed: What is liberal education? What are the major purposes of liberal arts or sciences? The rest of this chapter considers the relationship between military officer and liberal values. What values are liberal? Who are the military professionals? Then the relationship between liberal values and military profession is addressed.

A. LIBERAL EDUCATION

> A liberal education is more than a classical education, more than an education in literature, more than an education in what is called humanities, and more than a thing a training in the moral virtues. Each of these is necessary to the whole, but it is not the whole; nor, as education is conducted, is it a large part. Ideally the part of each very large, and subsequently this should be clear. For the present it must suffice to consider all four things as the inadequate disciplines which in practice they are. [Ref. 3 : p.43]

The above quotation is a part of Mark Van Doren's opinion concerning the definition of the liberal education and implies the difficulty in arriving at a generally acceptable definition.

What is the liberal education? What are the major purpose of liberal education in contemporary society? Martin Trow, in his book, *Missions of the College Curriculum,* has said:

> Liberal education ensures that all students obtain, from the many courses and programs an institution may make available, some knowledge of the ideas and culture that were once themes of the total undergraduate curriculum. It does so by providing learning that:
>
> - Builds skills for advanced studies and lifelong learning.
> - Distributes time available for learning in such a way as to expose students to the mainstreams of thought and interpretation- humanities, science, social science, and the arts.
> - Integrates learning in ways that cultivate the student's broad understanding and ability to think about a large and complex subject. [Ref. 4 : p. 165]

Accordingly, it has three quite separate components: (1) advanced learning skills course, (2) *distribution* courses, and (3) integrative courses. [Ref. 4 : pp. 167-173] They

serve quite separate purposes and are divisible- *liberal education* in practice may include three or two or one of them. The first seek to impart language and mathematical skills of almost universal value in any advanced learning. The second are concerned with giving the students some sampling of the major streams of human thought (the social sciences, the basic sciences, the humanities), both so that students can be assisted in selecting their major emphasis better after having been exposed to the principal alternatives and so that they will have some acquaintanceship with different "ways of knowing" and these different approaches to the aspects of life what we call the good, the true, and the beautiful. The third are concerned with giving the student a chance, at the most, to understand mankind's changing environment and the place of the individual within it, and , at the least, to think of some broad series of problems beyond the confines of the major or of individual elective courses.

Though it would doubtless be difficult, if not impossible, to arrive at a generally acceptable definition, a means of agreement, however, can be reached through a description of the types of abilities in those who have been subject to its influence. According to Huxley, as quoted by Stygall, a liberally educated person is:

> that man, I think, has had a liberal education who has been so trained in his youth that his body is the ready servant of his will, and does with ease and pleasure all the work that, as a mechanism, it is capable of; whose *intellect* is a cold, clear, logic engine, with all its parts of equal strength and in smooth working order; ready, like a steam engine, to be turned to any kind of work, and spin the gossamers as well as forge the anchors of mind; whose mind is stored with a *knowledge* of the great and fundamental truth of nature of the laws of her operation; one, who, no stunted ascetic, is full of life and fire, but whose *passions* are trained to come to heel by a vigorous will, the servant of a tender conscience; ... [Ref. 5 : pp. 129-130]

According to Stygall's own definition, a liberally- educated person possesses:

- General Map of Knowledge
- Intellectual Powers
- General Skills of Communication
- Special Skills [Ref. 5 : p. 130]

In this context, Milton's following famous sentence may deserve cautious interpretation for the present purpose:

> I call therefore a complete and generous education that which fits a man to perform *justly, skillfully,* and *magnanimously* all the offices both private and public, peace and war. [Ref. 3 : p. 66]

It implies three objectives of liberal education. While the first two deal with areas of knowledge and intellectual processes, the third is concerned with attitudes, character traits, and values.

1. Knowledge

Since facts are prerequisite to understanding concepts, principles, and generalization, each student must necessarily start to construct his hierarchy of knowledge in a given field on a factual foundation. [Ref. 6 : p. 18] Accordingly, it would probably be generally agreed that those who have had a liberal education should have acquired a broad knowledge of the various major areas of learning- the basic sciences, the social sciences, and the humanities, including the fine arts.

In view of the enormous mass and accelerating rate of growth of knowledge, students cannot fairly be expected to encompass any large portion of it in four years. They can, however, properly be expected to gain an acquaintance with the basic facts and principles of the various disciplines. A student who completes a professional education of four or more years with however distinguished a record in engineering, education, or pharmacy, but with little or no knowledge of history, philosophy, literature, or economics, is not liberally educated. He will be prepared to think and act effectively neither in his chosen occupation nor in the many life situations which are the common lot of all.

Of course, the first objective of liberal education, acquainting the student with the fundamental facts and principles in the three main areas of knowledge, can be accomplished by supplementing the basic courses in science with instruction in the social science, the humanities, and the skill of communication. The mere possession of facts, however, does not guarantee the efficient, the incisive, and the imaginative use of the mind. Newman, in his outstanding analysis of the nature of liberal education, *The Idea of a University*, has said:

> Knowledge then is the indispensable condition of expansion of mind and the instrument of attaining to it; this cannot be denied, it is ever to be insisted on; I begin with it as a first principle; however, the very truth of it carries men too far .... the end of a liberal education is not mere knowledge. [Ref. 7 : p. 115]

2. Intellectual Powers

J. Douglas Brown added:

> In higher, liberal education, knowledge should become far more a means of education than an end in itself. One does not take a wide range of courses from art to zoology to encompass content, but primarily to utilize the differing kinds of subject matters and ways of working with each as a means of enhancing the intellectual powers and the evaluative sensitives of one's mind. [Ref. 8 : p. 115]

Liberal Education ought to cultivate those skills and habits of reasoning which constitute intellectual competence, the capacity to think logically and clearly, the ability to organize one's thoughts on the varied subjects with which the citizen today must unavoidably concern himself. In a sentence, these faculties might collectively be described as the capacity to order and interpret a complex set of circumstances in the physical, social, or artistic world, and to bring one's full intellectual resources skillfully to bear on the solution of a problem.

Just as the student must have some knowledge of many fields, so also, in order to gain competence in using the diverse forms of reasoning, he must have experience with intellectual processes other than those conventionally employed in his major academic field of interest. The various disciplines do, of course, employ some intellectual processes in common- the logical deduction of conclusions from valid premises, for example- whether the matter under consideration involves the facts of science, history, or art. Yet they also use intellectual methodologies in part peculiar to themselves. The chemist or physicist will only be satisfied with knowledge in which the probability of error is reduced to negligible proportions, while the historian of the sociologist, dealing as he does with human acts and events, must be satisfied with a much greater range of both fact and judgment.

The most distinctive and yet the most widely used processes of reasoning are doubtless the deductive method of formal logic and the inductive method of science. Those who are to be liberally educated can gain familiarity with these mental processes and skill in their use most readily by the study of mathematic and the sciences. Other branches of learning, the humanistic disciplines for example, use somewhat different intellectual operations in their interpretation of the world and the activities of men. Though they naturally employ the laws of logic in constructing a reasoned view of reality, their distinctive characteristic is their concern with values, with the ends of life, with the destiny of man.

Still another area of intellectual endeavor uses somewhat different approaches in its interpretation of reality. The social sciences- economics, sociology, and political science, for example- insofar as possible follow scientific procedure by constructing hypothesis, setting up experimental controls, and making accurate observations. These disciplines also use other investigative procedures, including statistical method, historical analysis, and case studies. Unlike the natural scientist, however, the scholar concerned with social phenomena often cannot arrange experiments which others can repeat. On the contrary, he must sometimes accept data of unprovable authenticity or of incomplete representativeness and, reasoning cautiously, arrive at tentative conclusions.

The liberally educated mind possesses another set of intellectual abilities, those involving the effective use of the various symbols and media of expression and communication. In the formulation of concepts and in the orderly development of a reasoned view of life, the meanings of words are the fundamental element.

3. Attitudes, Values, and Character Traits

Most academic departments accept attitude change, value formation, and the acquisition of new character traits as appropriate and legitimate instructional objectives. [Ref. 6 : p. 20] The reason is obvious: equipped with essential knowledge and skills of intellectual workmanship, the college graduate may nevertheless have failed to reach another important goal. Though richly informed, and capable of clear and cogent reasoning, he may yet be intolerant, unwise, intellectually stagnant, and inept in the arts of human relation. The third major objective of liberal education is, therefore, concerned with attitudes, ideals, and traits of personality and character. These qualities, harder to describe and to measure than the other outcomes of liberal education, are yet the hallmark of the liberally educated person. They are the qualities that remain after all the facts which were learned have been forgotten. The product of liberal education is a whole man, not a few attributes which happen to be measurable. [Ref. 8 : p. 106]

B. LIBERAL VALUE AND MILITARY OFFICER

What values are liberal? Who are the military professionals? and What is the relationship between liberal values and the military profession? To throw some light on these questions, it is important to begin with the concept of each term.

1. Liberal Values

> The word *liberal* has a long history, and in that history it has a meaning. Both the history and the meaning are little known today, with the result that liberal in many minds suggest; only certain studies which lie outside the fields of exact knowledge .... [Ref. 3 : p. 71]

To properly assess the importance of liberal values for the military officer, we must establish what is meant by the term *liberal* - and, also, what is not.

As considered in this study, the term *liberal* is not politically oriented: neither is it directed toward greater permissiveness. As regarded here, one who holds liberal values is not necessarily oriented to the modern political left: nor can he be expected to support the classical liberalism.

> In essence, the point of view emanating from liberal values is that of the open mind. It is our best protection against the closed mind. Values which characterize the open mind, and have liberated it, result from an awareness that methods, beliefs, and standards first learned are not necessarily the most appropriate ones. [Ref. 9 : p. 19]

Thus, the liberal man is able to appreciate, though not always to accept, different ideas and approaches. "He is open-minded or not strict in the observance of orthodox, traditional or established forms or ways."[3] Simons has developed an active awareness of at least four fundamental considerations; (1) *context,* (2) *perspective,* (3) *uniqueness,* and (4) *criteria.* [4]

Awareness of *context* enables the liberal man to view events or issues in terms of the circumstances which surround them and the effects they will probably have on these circumstances. As a result, his judgments about the event or issue are likely to be broadly based, and any action he believes necessary will be taken with full awareness of probable consequences.

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[3] Modified from the Webster's Ninth New Collegiate Dictionary, Merriam-Webster Inc., P.688.

[4] Simons, pp. 21-22. A major part of following discussion is heavily borrowed and modified from his discussion except where otherwise cited.

Perspective enables the liberal man to see problems and events in terms of their formative stages. Thus, he is better able to analyze casual factors and understand why a problem exists. As a result, he is likely to develop fundamental and lasting solutions rather than those that cope with apparent and temporal aspects.

Being aware of *uniqueness* provides the individual with insights into the fundamental nature of an issue. Armed with this awareness, the liberally oriented person can determine quickly whether or not the unique features of a problem are crucial. If they are not, he can apply solutions known to have been successful in the past, with a minimum of further deliberation. If they are believed crucial, he knows where to devote his energies and what kinds of analysis are likely to be appropriate.

Criteria are best defined as evaluative standards; they are used as reference points in making judgments. We use different criteria to evaluate different kinds of objects or people. [Ref. 10 : p. 77]

Thus, the man who recognizes that many different criteria are suitable for evaluating different issues is the man best equipped to judge each issue or event on its merits. He is least likely to rely on a doctrinaire rationale or to take inappropriate measures to meet a crisis. Aware of a variety of possible approaches to a problem, he is likely to apply the kind of analysis and the solution most appropriate in each instance.

However, true appreciation of the context in which problems develop could not occur without some knowledge of the major areas of learning. An awareness of perspective could not be attained if one were not familiar with fundamental factors contributing to human events and to the nature of the physical world. Uniqueness could not be recognized if one were not disciplined to observe physical and social phenomena and categorize them according to similarities of features and behavior. Likewise, an awareness of various criteria for evaluating issues could not develop without experience in the different intellectual processes and forms of reasoning that characterize the major fields of learning. Each field contributes in its own unique way, and together they provide the intellectual tools with which liberal values can be cultivated.

2. The Military Profession

The military represents one of the professions in the world. In addition the military is a highly specialized profession because it is a profession that can only be practiced in modern times in governmental employment. "The military profession, however, differs from other professions with regard to the role of the professional association." [Ref. 11 : p. 36] The military profession has serveral characteristics not shared by such other professions as law, education, or medicine.

The rationale is that valuations of the worth of professions must take into account the essential role of the professions being examined. Our high regard for the medical profession, for example, stems from its basic role to preserve life; life itself is very high on the scale of human values. Our high regard for judges stems from their essential concern with justice, another important human value. If we are to evaluate the military profession in an analogous way we must decide on its essential role. If we can agree that the role of the military establishment of a free nation is to preserve and protect the way of life that nation, and if we can agree thar the way of life is an important human value, then it surely follows that the military profession is a noble profession indeed.

The peculiar definition of the military profession can be defined in various way. Much depends on attitudes, behavior, and purpose of those who consider themselves professions. According to Janowitz, as quoted by Jordan:

> The military has the same general characteristics as the other professions, namely, a specialized body of knowledge acquired through advanced training and experience, a mutually defined and sustained set of standards, and a sense of group identity and corporateness. [Ref. 2 : p. 211]

As we know from the above quotation from Jordan, much of the literature on military profession deals with knowledge, technical competence, corporateness, and values intrinsically military in their perspective. These considerations are certainly valid, but a major omission is the responsibility in terms of moral and ethical considerations. [Ref. 12 : p. 12] It is essential to apply the idea of responsibility to the military profession although it is a complex task. Janowitz mentioned that the essential elements of a military group are (1) a system of training, (2) a body of expert knowledge and skill practices, (3) group cohesion and solidarity, (4) a body of ethics and a sense of responsibility, and (5) mechanism of self- regulation. [Ref. 12 : p. 14]

Huntington's strict interpretation of professionalism appeared to be the most appropriate and relevant perspective. In *The Soldier and the State,* he describes three "distinguishing characteristics of a profession" which provide useful bases for examining the impact of liberal values on the professional. These are *corporateness, expertise,* and *social responsibility.* Each tends to exert influences to which the liberal point of view stands in marked contrast.[5]

---

5 Samuel P. Huntington, *The Soldier and the State* (Cambridge: The Belknap Press of Harvard University Press, 1957), pp. 8-10. The following three paragraphs are heavily borrowed from his discussions.

a. Corporateness

Corporateness results from a profession's *sense of organic unity* and is manifested in formalized standards of competence and special rules of conduct. Being part of a group thus distinguished from the rest of society, professional men find status and acceptance as members of the professional organization. Furthermore, they tend to seek approval through adherence to organizational standards and faithful application of its characteristic discipline. Without the broadening influences of liberal values, corporateness could have the effect of breeding parochial viewpoints and perpetuating outmoded organizational constraints. On the other hand, a liberal point of view enables the professional man to project beyond traditional concepts and break the bonds of institutionalized routine.

b. Expertise

Expertise is the product of extensive specialized education and experience. It is based on knowledge that is "intellectual in nature and capable of preservation in writing," but it also incorporates a high degree of practical skill. Through professional journals which keep practitioners informed of new theoretical developments and practitioners who periodically teach in the professional schools, the two aspects continually reinforce each other. The sheer volume of specialized literature, the increasing incidence of new professional knowledge, and the inbred nature of a profession's educational processes all tend to confine the member's new learning within rather narrow limits. Without liberalizing influences, the professional can easily become totally wedded to the intellectual processes of his own discipline and bogged down in the specialized compartments of his particular competence. However, a liberal outlook lends proper perspective to professional expertise and tends to prevent it from being pedantic and self-serving.

c. Social Responsibility

Social responsibility stems from the nature of professional work. The service which its monopolized skills render directly to society distinguishes the profession from other intellectual pursuits. It is possible for the professional man to employ his talent only for tasks and to the extent specifically requested by society. However, he can also apply his expertise in the broadest sense, not merely diagnosing ills and treating symptoms, but attempting to improve society by attacking its root problems. It is the latter interpretation of responsibility that is likely to result from a liberal orientation.

3. Liberal Values and the Military Profession

> The professional military mind is by necessity an inferior and unimaginative mind; no man of high intellectual quality would willingly imprison his gift in such a calling.[6]

The quotation above expresses quite forcefully a conception of the *military mind* which can be found in many literary characterizations of the military officer, some fictional and some non-fictional. Additional description of such a mind find it to be conservative, disciplined, unconcerned, uniformed, and suprisingly enough, morally insensitive. The last characteristic is attributed to the *garrison mind* by Murray Kempton who states that:

> the good soldier will lie under orders as bravely as he will die under them. The garrison mind can produce acts that are honorable and even gallant; but notions of high virtue and selfless service seldom intrude upon it, being disposed of by discipline. [Ref. 13 : p. 14]

The author has pointed out this particular and perpahps popularized view of the intellectual and moral abilities and attitudes of military officers, since it is clear that the institutional goal of the KAFA is directly opposed to the production and preservation of officers who fit the *military mind* stereotype.

It has seemed to the author particularly paradoxical that the attitude which creates the stereotype described above must assume that the qualities of obedience and loyalty which we esteem greatly in young people, particularly in our own children, when they are ascribed to career military officers, are assumed to be in some sense necessarily conjoined to stupidity and moral laxity. The villain in the case seems to be discipline. If the author analyze the deprecating attitudes correctly, they hold that, in brief, discipline and dynamism do not mix; a mind which readily and habitually obeys orders can hardly be thought to be either brilliant or creative. The aim of the KAFA, as the author conceive, stands in sharp contradiction to the previously descrived view.

If a liberal orientation is important for most professional men, it is particularly needed by the military officer. The nature of the military career magnifies still further the constraining professional influences, making it all the more necessary that these be counterbalanced.

---

6 This quotation from H. G. Wells's *Outline of History* was cited by colonl M. M. Wakin. in his article, *Dynamic and Discipline*. Wakin's position was. obviously, antithetical to that of Wells.

As mentioned early in this chapter, the essential function of the military establishment is to preserve and protect the nation and people. The following quotation from a book by Janowitz serves to underscore this point of view.

> The primary orientation of the military services toward combat operations tends to reinforce many of the professional constraints. Despite changes which have occurred in the nature of war, it is still preparation for combat that is this profession's unique contribution to the nation. [Ref. 14 : p. 37]

Therefore, modes of service behavior are necessarily shaped to instill habits and attitudes that will best sustain reliable performance in battle. Consequently, there exists in the military the need for unquestioned obedience to authority. In especially critical or complex technical operations, acts of obedience must often take the form of automatic response to signals or verbal commands. In such cases, as in an emergency dive of a submarine, almost no interpretation of orders or variations from predetermined actions can be permitted. Where men's lives are at stake, standardized practices, developed empirically under combat conditions, must be relied upon. Individual desires to respond to impulse or follow an intuition must be subordinated to courses of action learned. To sustain this essential combat point of view, officers are encouraged to regard organizational loyalty as perhaps the highest military virtue.

Related to these requirements are the kind of training and testing exercises in which military organizations continually engage. Considerable emphasis is placed on repetitive, routine drills which, though dulling intellectually, are nevertheless necessary to the perfection of combat techniques and teamwork. In such repetitive exercise, quick reaction and disciplined routines are primary goals.

Similarly effective constraints on military professionals results from service doctrine. Branches of military are unique among professional groups in that each has developed a rather formal body of rationale as a guide for its operations and policies. As a result, military units can evaluate the efficacy of new proposals against official sets of fundamental concepts and common criteria. However, they can be used as an intellectual crutch, a force for complacency and inflexibility. Doctrine provides a ready answer for most service-related controversies, but in any given instance its value may be more apparent than real. If misapplied or allowed to stagnate, it can hinder a military service in achieving its operational potential.

Thus, the influences of military doctrine and a frequent orientation toward standardized routine exert critical pressures on the military officer. Without balancing influences, their net effect tends to stifle individual thinking and encourage a complacency in lock-step mental processes. The officer who abhors innovation and is wary of a questioning, critical attitude is a character only too familiar to many military organizations.

The problem is most serious when an officer's duties are related primarily to technical operation procedures - more likely in the early formative stages of his career. Frequently, officers who have spent too much time on such assignments are ill-equipped for the creative staff functions such as planning and policy formation. As Janowitz has pointed out, the services whose leaders have adhered most closely to technical combat roles have been least successful in developing noteworthy military statesman.[7] However, as purely technical operational functions occupy less and less of an officer's attention he is better able to free himself from the profession's constraining influences and qualify himself for broad policy-making responsibilities.[8]

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7 Morris Janowitz, *The professional Soldier,* New york Free Press of Glencoe, Inc., 1960, pp. 38-44.

8 John W. Masland and Lawrence I. Radway, *Soldiers and Scholars:* Military Education and National Policy, Princeton University Press, 1957, Chap. 2, particularly pp. 44-46.

III. HISTORICAL CONSIDERATIONS

This chapter is designed to consider some of major historical issues which are related to the study. The first section of this chapter is intended to provide some ideas on the formative years of Korean service academies when heavy borrowing was taking place in relation to the U.S. . The rest of the chapter considers the curriculum changes of the Korean Air Force Academy. It is limited to the general trend and major reasons in the curriculum revision.

A. FORMATIVE YEARS OF KOREAN SERVICE ACADEMIES

Without any indigenous military tradition, culture, or elite in Korea, the modern military institutions began to take shape under the exclusive influence of the United States after the liberation from Japanese domination. Accordingly, even though the Japanese influence can by no means be overlooked, the current state of the Korean service academies can not be separated from the U.S. Henderson's comment may deserve cautious interpretation.

> The present Korean military has no relation to the ancient armies of the peninsula. Instead it illustrates the difficulties of organization-building in many emerging, former colonial countries: without control over their own traditions, such countries must copy institutions from abroad. Sources of disunity are thus multiplied at the very time that unity is most needed. Korea's military was melded of several different influences, almost entirely foreign. [Ref. 15 : p. 336]

1. Pre-Korean War

The military is the only Korean group on which Americans have succeeded in concentrating sufficient funds, advice, training, and attention over a long enough period to achieve effective influence. No other sector of society had so extensive and continuous an exposure to U.S. training and example. [Ref. 16 : p. 46] Particularly, American's tremendous efforts were made for establishing of Korean military education and training systems. The first course was simply called- and simply- was an English Language Training School. Because the language barrier seriously hampered the American efforts to train the Korean Army, the school was created on December 5, 1945. This school was the predecessor of the Korean Military Academy (KMA), which was the first pre-commissioning school in Korean history. But, training itself was simple and the real

purpose was different from what the name of school implied. The main purpose of the school described by Henderson:

> The purpose of the English Language Training School was not to teach the Koreans English but to teach them basic military expressions in English. [Ref. 15 : p. 341]

Korean instructors were lacking, and manuals were skimpily translated until the Korean War. Americans taught through interpreters, drawings, and sign language. The whole effort was rudimentary for many precious months.

The English Language School was replaced by the Korean Constabulary Officer Training School, which lasted till it was redesignated as the Korean Military Academy in August, 1948. The Constabulary Training School failed to function as anything more than an elementary officers training class through the spring of 1949. In the words of the first commandant of the Korean Constabulary Officer Training School as quoted by Henderson:

> The contents of the course were mainly close-order and combat drills, together with tactics which were taught by means of informal translations of the American Field Manuals. [Ref. 15 : p. 341]

It is interesting to note that during the constabulary era, the U.S. military government used the name *Officer Training School,* but the first Korean superintendent insisted upon *Military Academy* as its name. Therefore, two name plates were posted at the gate of the institution, Officer Training School in English and Military Academy in Korean. [Ref. 17 : pp. 72-73] While it is not clear whether the U.S. advisors were aware of this tricky issue or not, it is quite symbolic of the eagerness of Korean elites to have their own regular military academy.

The Navy Soldier School was opened on January 17, 1946. It changed its name to Coast Guard College two months later. The name was changed to Naval Officer College just one month later and again to Naval College two month later. Finally it was redesignated as Naval Academy on January 15, 1949. [Ref. 18 : pp. 57-58] Such a frequent name change can partly be explained by the sensitivity of the U.S. to the Soviet response.[9]

The U.S. Coast Guard advisors, not for the Korean Naval Academy but for the whole Korean Coast Guard, arrived on September 1, 1946. But within 10 months the

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9 Henderson makes this point in *KOREA; The Politics of the Vortex,* Harvard University Press, 1968, p. 340.

advisors were asked to withdraw from Korea. The inattention of KMAG (Korean Military Advisory Group) to the Korean Navy is vividly seen by the distribution of advisors. None of KMAG members were assigned to the Navy, to say nothing of the Naval Academy, as of December 31, 1949. Since the strategic emphasis of the U.S. was concentrated around keeping the ground force to maintain the internal security, most of manpower and activities of KMAG were concentrated on the Korean Army.

In addition to the difference of academic program, the educational period of the Military Academy before the Korean War ranged from 45 days to 6 months while it ranged from one to three years at the Naval Academy. There were two possible reasons for the short period of the Military Academy. First, the Korean Army at that time was expanding rapidly, and second, most of the cadets previously had military experience in Japan or China. On the other hand, the situation of the Korean Navy was quite different. The Coast Guard lacked vessels from its outset. This may partially explain the reason why more time was devoted to the academic program at the Naval Academy.

The relative emphasis of KMAG on the Military Academy, however, did not seem to have brought the American impact to the institution. There is no doubt about the fact that the U.S. was deeply involved in the military education, especially at the Military Academy, in specific. For example, the U.S. military government forced the graduates of the English Language Training School to finish a supplementary training based on the U.S. military doctrine. KMAG conducted military drill and quartermaster training only in an American way, using text books translated from the U.S. field manual and technical manual.

However, what is important is that the experiences through the daily dormitory life may influences cadets more than the academic program. The dormitory life of the Military Academy was entirely based on the strict Japanese precedent. Several Japanese books were used as text because most of the Korean instructors had been trained by Japanese. As a result, the majority of the pre-Korean War graduates of the Military Academy were trained with a mixture of American and Japanese military education. It was not until early 1949 that the Military Academy started an attempt to get rid of Japanese residue. [Ref. 17 : p. 87] The important thing to keep in mind is that these graduates of the Military and Naval Academy were going to be key members of the service academies of the new era after the Korean War.

On October 1, 1949, the Air Force became a separate service being named the Airforce Academy. However, as far as the Japanese influence is concerned, the Air

Force was not an exception. The Air Force has been mainly dominated by the Tokyo group. Henderson commented:

> Japan's military system was the main initial precedent.... From the twenty Tokyo-trained officers who survived World War II, the *enfants dores* of the system, came five of the first seven Chiefs of Staff and three of the Ministers of Defense between 1948 and 1961. The Air Force has been especially dominated by the Tokyo group, which had a better social background and firmer roots in South Korea than any other group. [Ref. 15 : p. 336]

A variety of academic subjects were taught including 13 subjects in Engineering, 11 in Military Science and Training, 18 in Liberal Arts, and three others. It is quite noteworthy that 18 different subjects in Liberal Arts were taught, including *An Introduction to Music* and *An Introduction to Fine Arts*. The last two subjets have never been included in the Air Force Academy curriculum ever since. [Ref. 19 : pp. 49-50] The first class of KAFA spent about one year in an academic program till the Korean War broke out on June 25, 1950.

2. The Early 1950s

The period between late 1951 and early 1953 marked a turning point in the Korean military's improvement of the training and education structure. Korean-American efforts to form effective armed forces were, from 1951 on, sure-footed, and ultimately successful. War had vanquished American inattention to Korea. There was new determination that the mistakes which had brought defeat must be redressed. The lack of training, especially the integrative effect of training on military units, was singled out as a chief cause of defeat. Training deficiencies were to be corrected.

The opening of negotiations of War at Panmunjom in July 1951 provided the first opportunity to proceed to with training plans with deliberate thoroughness. Toward the end of 1951, the Korean Army's service schools were re-opened, re-equipped, and greatly expanded in facilities and in advisors. Specialist training was expanded. Korean officers were sent now by the hundreds to study in American service schools.

To understand better what was happening during the war time and shortly afterwards between the U.S. advisors and the Korean service academies, and among those three academies themselves, it is helpful to know that all the schools were located in the same area, a small city Chin-hae, and that the major influx of the West Point systems was directed to KMA by American advisors who were assigned solely its institution.

The West Point system, based on the so-called *Thayer system,* made KMA a duplicate of West Point. Henderson Commented:

> The leading class of the new institutional values was the Military Academy. The curriculum was rigorous, exams were frequent, and their results posted. The staff was increasingly professional. Exacting discipline, parades, and ceremony were used to inculcate institutional values and pride. It was consciously and closely modeled on West point. [Ref. 15 : p. 353]

The Thayer system includes the daily system with the daily test system, the honor system, and the demerit system. KMA adopted the system in 1953 when it reopened as a four-year course.[10] KAFA officially decided to apply the "daily memorize system" to all class in 1954. KNA adopted the honor system sometime in 1955, while KAFA did in February, 1954. The demerit system was adopted by both KAFA and by KNA in 1953. While KMA reopened January, 1953 as a full four-year course, the other two, which had never stopped their operations, finally settled down in 1953 with full four-year courses. The law for the establishment of the service academies came into effect in October 1, 1955, and opened the door to another stage of development.

B. KAFA'S CURRICULUM AND ITS CHANGE

Since the Academy's establishment in 1949, there have been significant changes in course content. Table 1 shows the changed patterns of the curriculum over the thirty-years period. Even though it does not catch all the detailed modification of the curriculum, Table 1 also reveals two distinct trends which will be discussed in a later chapter.

First, despite some minor modifications, the emphasis in the curriculum was on basic and engineering sciences. Analysis of cumultative percentage indicates that about 48 percent of curruculum time was spent on basic and engineering sciences.

Second, in the case of attention to the humanities and social sciences, the portion of them in the curriculum used be less than that of basic and engineering sciences. The percentage of humanities and social sciences used be less than 30 percent over a decade. But, it increased over 30 percent for the class of '61. Ever since, there was a steady upward trend until the late 1970s.

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10 KMA History, p. 167. A major sources of following informations are three Korean Service Academie's Historybook.

Table 1. SHIFTS IN CURRICULUM OF KAFA: Ratio to the total hours in 1949-66, Ratio to the credits in 1966-80. Others: march, an inspection of troops, parade, self-study and extra- curricular working etc.

	1949-53	53-57	57-61	61-63	63-66	66-69	70-74	75-80
Total Credits (Total Hours)	(3,615)	(4,995)	(5,048)	(4,910)	(3,426)	161	181	183
Basic Science (%)	20	19	21	24	28	26	21	15
Engineering Science (%)	18	20	27	19	30	26	26	40
Humanities (%)	14	22	16	17	19	19	21	20
Social Science (%)	8	6	11	14	19	20	20	6
Military Science (%)	32	13	18	19	4	9	12	13
Athletics (%)	8	3	7	7				6
Others (%)		17						
Total (%)	100	100	100	100	100	100	100	100

Source: Compiled from KAF HQ, "Curriculum Change of KAFA," typewritten.

According to Martin Trow, the factors which influence undergraduate curriculum are highly interactive, each tending to shape and mold the others.[11] They can be categorized as follows:

(1) Internal Forces that Shape the Curriculum

- Academic Departments
- Colleges and Other Academic Divisions
- Presidents and Academic Deans
- Individual Faculty Members
- Students
- The Extracurriculum

(2) External Influences on the Undergraduate Curriculum

- General Influences; the public, communications media

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11 Martin Trow, *Missions of the College Curriculum;* A Contemporary Review with Suggestions, Jossey-Bass, Inc., Publisher, 1977, chap. 3, 4.

- Opportunities for Graduates; professions and occupations graduate and professional schools
- Intellectual and Academic Influences; new knowledge, textbook foundations
- Inputs; budget
- Regulation; governments, accrediting agencies
- Procedural Influences; transfer student competition[12]

In case of KAFA, generally speaking, the rapid evolution of the military profession resulting from the changed environment of education and inevitable contingencies has caused KAFA to change its curriculum. Several specific reasons may be given for these changes in the KAFA's curriculum.

The first reason is that the KAFA has tried to koreanize the curriculum, which was patterned after those of West Point and USAFA. As discussed early in this chapter the Korean service academies adopted the so-called *Thayer System,* through which Thayer made West Point a first-class engineering school which pioneered in technical education. However, even though the influence of West Point and USAFA on the curriculum part of the KAFA is quite noteworthy, the personal influence of a KMAG advisor cannot be overlooked in the process of curriculum change. According to KAFA history book:

> The reinforcement of liberal education was influenced by Lt. Col. Thompson assigned to KAFA on September 3, 1960, as well as by the curriculum of USAFA .... [Ref. 19 : p. 262]

Since the withdrawal of the advisors, remarkable curriculum changes have occurred.

The second major curriculum change was made as a means of obtaining better students. This change occurred early in 1970s when the curriculum was modified two tracks: Sciences and Liberal Arts. This modification, along with that of the entrance requirements, had to be adopted to recruit better and more high school students of liberal arts major than those of science majors. Until then high school science majors had a great advantage in the entrance examination. Accordingly, the curriculum at the KAFA had to be changed to retain a reasonable balance between basic sciences and engineering sciences and humanities and social sciences.

Third, the KAFA must adapt to the civil- military relations and recognize that the military has been required to participate in the formulation of national security policies and to assist in implementing them. This has required broad knowledge and competence

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12 Ibid., Fuller discussion of this idea can be found in the chap. 3, 4.

in many diverse public fields. Moreover, KAFA began to emphasize the courses focusing on anti-communism, nationalism, Korean democracy, modernization, self-defense, and other national security matters. These emphasis seemed to reflect national objectives under the *Yushine* regime.

The last, but most vital, reason is the concerns of early flying training. Many people agree that the pilot training should not be included in the curriculum. They are based upon the opinion that pilot training program would interfere too much with academic program. However, some people both in and out of the Air Force agree that the Academy should include some phase of flying training. They insist that the curriculum should include a concept of global indoctrination, that some pilot indoctrination be offered, and that cadets should be qualified and graduated as aircraft observers.[13] What is important in this case is that concerns for early flying training force KAFA to face complicated curriculum problem.

As far as the modification of the curriculum is concerned, the major causes and contents of KAFA's curriculum revisions are as follows. (Table 2)

- organizing the sequence and inter-dependence among all the subjects
- enforcing and organizing the subjects related to military affairs
- adopting the two-track system (science and liberal arts)
- reducing credit hours and subjects in number
- shortening the training hours with the flying training

13 ROKAF HQ; Department of Educational and Training, *A Report and Recommendation on KAFA Curriculum,* 1984.

Table 2. THE CAUSES AND CONTENTS OF CURRICULUM REVISION

Period	Title	Causes of Revision	Contents of Revision
53-57	Wartime and Peace time Curriculum	Emphasizing academic course. Establishing systematic curriculum. Emphasizing the basic natural science.	Newly opening German, Russian language course. Revising curriculum into Division of humanities, natural science, Aviation Engineering and Military Training.
57-61	Systematization of the Peace Time curriculum	Emphasizing applied engineering course with the introduction of new weapons. Rectifying basic science and engineering course.	Rectifying communication, electronics, aviation engineering courses. Opening French, Chinese language courses. Opening Thermodynamics course.
57-61	Balanced curriculum	Balanced curriculum between academic (humanities, science and engineering) course and military science	Equalize science and engineering course with humanities course by 5:5. Separating military science from military training. Newly opening aviation physiology, communication courses.
63-66	Elective Course curriculum	Rectifying major course by selection. Rectifying military science.	Dividing three selected course classes. Rectifying the theory of military science.
66-69	Translation Period Curriculum	Integrating aviation school. Emphasizing major courses.	Conducting three- year curriculum from 18th class. Dividing major course into general and major course.
70-74	Transistional Period curriculum	Transitional period with the introduction of the flying training department.	Opening core courses in social, natural and military science.
75-85	Academic Major Curriculum	Revising according to the *Guide to the curriculum coordination* by the Ministry of Defence.	Rectifying engineering courses. Increasing necessary major courses in the Air Force (newly opening department of aviation military sciences.
86-	Major curriculum	Increasing major courses from 4 to 8.	Newly opening department (Foreign language, International Relations, Computer science, Operational research).

Source: Adapted from KAFA, "History," p. 308.

IV. STRUCTURE OF THE CURRENT EDUCATION AND TRAINING PROGRAMS

The KAFA must perform several difficult, and sometimes conflicting, functions at the same time. It must develop the desire of as many cadets as possible to make a professional career in the Air Force; it must train the graduates to become officers capable of assuming their professional duties immediately upon graduation; it must provide a technical education which will permit these officers to perform their duties in a highly complex technological environment; it must provide an undergraduate education that will permit an increasing number of officers to advance to graduate study; and it must also provide some broad general education which will, in addition to its intrinsic values, give these officers an understanding of the nature of the free society they are dedicated to defend.

The successful accomplishment of these functions requires the development of the cadet in three closely inter-related parts of the education and training program. These can be designated as:

- The Academic Program: education in the sciences, engineering and humanities.
- The Military Professional Program: the military knowledge and training required to qualify the cadet as an officer capable of assuming his duties immediately upon graduation.
- The Airmanship Program: the development of his military character, and dedication to lifetime service in the Air Force.

All three parts of the education and training program are of major importance and no one part can be overlooked or neglected. Within the limitations of this four year curriculum, each part must compete with the others for the cadet's time, energy, and psychological orientation.

If all the concerns about education and training are considered, the four-year current programs seem evenly divided between curriculum program and noncurriculum program. Both the academic program and the military professional program will be discussed in turn under the heading of the curriculum program. Under the heading of the noncurriculum program, the airmanship program and extracurriculum activities will be described.

A. CURRICULUM PROGRAM

The KAFA curriculum provides four years of undergraduate study leading to a bachelor degree[14] and a commission as a second lieutenant in the Regular Air Force. One of its purpose is to provide each cadet with a general education to serve as a foundation for future development in any of the many career fields open to Air Force officers. To fulfill this objective, the academy must provide liberal studies to an extent greater than the engineering colleges and engineering studies to an extent greater than the liberal arts colleges.[15] Moreover, the KAFA must impart sufficient professional military knowledge to enable a junior officer to embark on his career equipped to profit from his practical experiences and from more advanced professional education.

The total four-year curriculum has 61 subjects with 160 credit hours which are almost evenly allotted to 8 semesters. Table 3 shows the statistics about the distribution of credit hours and subjects at each semester.

Table 3. DISTRIBUTION OF CREDIT AND SUBJECT, 1987-88: Physical education courses and military training portions are included.

	I-1	I-2	II-1	II-2	III-1	III-2	IV-1	IV-2	Total
Subjects	8	8	8	8	8	7	8	6	61
Credits	19	20	20	20	21	20	23	17	160

Source: Compiled from KAF HQ, "KAFA Current Curriculum," 1988.

This is at least 20 credit hours more than required for an undergraduate degree in most contemporary civilian colleges or universities. It is achieved by way of allowing credits to military training and by careful organization of the cadet's time. The credit hours are prorated 125 to the academic program; 19 to the military studies; and 16 for physical education. (Table 4)

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14 Bachelor degree in science, engineering, or arts.

15 Fuller discussion of these prescriptions can be found in the *KAFA Educational Objectives and Curriculum Enhancement Plan (mimeographed),* ROKAF HQ, 1985.

Table 4. PROPORTION OF CURRICULUM PROGRAM, 1987-88: Physical education courses and military training portions are included.

	Total Credit Hours	Academic Program	Physical Education	Military Study
Credits	160	125	16	19
Ratio (%)	100	78	10	12

Source: Compiled from KAF HQ, "KAFA Current Curriculum," 1988.

The academic year consists of the spring semester from March through early August and the fall semester from late September through February of following year. The academic courses, physical education, and military training are given throughout the year.

It is obvious that to complete this four-year course more time and effort will be required of each cadet than is demanded of his contemporary at the average civilian college. Additionally, this triple-headed orientation confronts the KAFA with curriculum problems more complex than those faced by most institutions of professional education. Instead of a suitable balance between liberal and professional studies, the KAFA must effect a productive association among three broad areas of learning. As a result, finding time to provide an adequate foundation in all three instruction areas has been both a strong justification for and the paramount problem in the academy's common prescribed curriculum. The academic program and the military professional studies are discussed in turn under those headings.

1. The Academic Program

This program is under the supervision of the dean of the faculty. It consists of a common prescribed curriculum and major subjects, and electives. The credit hours are prorated 83 to the common prescribed subjects, 33 to the major subjects, and 9 elective studies. The common prescribed curriculum is balanced between the basic and engineering sciences and the social sciences and humanities. There are eight majors, three in humanities and social sciences, and five basic science and engineering, which will be described later. Instruction is given in four broad academic areas: the basic sciences (chemistry, mathematics, and physics); the engineering sciences (mechanics, electrical engineering, aeronautics, and operational research); the humanities (Korean, philosophy, English, second foreign language, logic, and history); and the social sciences (economics,

political science, international relations, psychology, management, law, and national ethics). Table 5 represents the KAFA's current curriculum.[16]

Table 5. CURRENT CURRICULUM OF KAFA, 1987-88: Does not include provisions for military training and physical training (total of 20 credits).

Semester	Common Prescribed Subjects	Electives	Credits
IV-2	Air war history; National defense; Major X; Major XI	Elective III (World history, Introduction to management, Military English, or English composition)	15
IV-1	Air-weapon system; Introduction to Psychology (Leadership); Major VI; Major VII; Major VIII; Major IX; O R		21
III-2	Aviation Law; Aerodynamics; Major III; Major IV; Major V; General Electronics		18
III-1	Introduction to Law; National Ethics II; General Mechanics; Major I; MajorII; Introduction to Politics	Elective II (Digital engineering or Aircraft engine)	19
II-2	English IV; Second Foreign Language II; Industrial Dynamics; Industrial Mathematics; Introduction to Economics	Elective I (Computer engineering or Statistics)	17
II-1	English III; Second Foreign Language I; Korean History; Linear Algebra; Basic Computer; Introduction to Astronautics		17
I-2	Korean II; English II; Introduction to Philosophy; General Physics and Experiment II; General Chemistry and Experiment II; Differential and Integral Calculus II		17
I-1	Korean I; English I; National Ethics I; General Physics and Experiment I; General Chemistry and Experiment I; Differential and Integral Calculus I		16
Total			140

Source: Compiled from KAFA HQ, "KAFA Current Curriculum," 1988.

16 Academic year 1988-89.

Liberal portions of the common prescribed curriculum include certain mathematics courses, basic science offerings, the humanities, and those social science subjects given general rather than professional treatment. Differential and integral calculus, and basic statistics all contribute basic knowledge of deductive reasoning processes vital to liberal learning and are required. Such contribution is made also by linear algebra. Full-year courses in both general physics and chemistry are included in curriculum. KAFA requires single-semester survey of the principles of leadership (Introduction to psychology) and a full year of some combination of Korean and Air- war history. A two- year course in English and a choice of a Second foreign language course are offered. A full- year academic course which traces Korean literature is required. Although all three Korean academies offer similar courses in such basic engineering sciences as mechanics, thermodynamics, electrical science, and engineering materials, the more advanced theoretical engineering courses reflect special interests of the Air Force- the KAFA requires study of theoretical aerodynamics. Similarly, although all academies require considerable physical education and basic military training, and courses in leadership, management, and law, the KAFA requires unique over-all patterns of professional studies. For example, the KMA has courses in defense policy and in evolution of the practical arts of war while the KNA devotes considerable attention to deck leadership, navigation, and principle of surface warfare.[17] The KAFA requires the study of introduction to astronautics, applied work in aerodynamics and aviation law, air-war history, and air-weapon systems.

As a vital structuring element for its elective opportunities during the current academic year, the KAFA offers majors in aeronautics, electrical engineering, mechanical engineering, operational research, computer science, management, international relations, and foreign language. Of particular interest is that, at each major course except foreign language and international relations, little portion of subject matter are associated with liberal education.

In many case it is difficult to distinguish, strictly speaking, between an *engineering* and a *professional* course. For example, the study of aerodynamics at the KAFA's curriculum is not easily defined as engineering or professional. But, using the distinction between theoretical and applied studies as the final determinant in such cases, the academic program can be arranged as shown in Table 6 and the following conclusions may be made.

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17 KMA and KNA Curricula, academic year; 1986-87.

Table 6. **PROPORTION OF PROFESSIONAL AND NONPROFESSIONAL STUDIES:** Neither total nor professional credits include physical education instruction or military training portion. Included as professional courses are those technical and social science offerings whose emphasis is practical or whose orientation is toward military or Air Force application.

	Professional Credits (%)	Nonprofessional Credits (%)	Total Credits (%)
Freshman	0 (0)	33 (100)	33 (100)
Sophomore	9 (32)	19 (68)	28 (28)
Junior	22 (76)	7 (24)	29 (100)
Senior	26 (87)	4 (13)	30 (100)
Over-all	57 (47)	63 (53)	120 (100)

Source: Compiled from KAF HQ, "KAFA Current Curriculum", 1988.

- Entirely formal instruction is provided in nonprofessional subjects during freshman year.
- Little formal instruction is provided in professional subjects during second academic year; the proportion of the standard academic load devoted to professional courses is about 32 per cent.
- The emphasis of professional courses increases markedly in the junior year. Generally, however, the predominantly nonprofessional instruction in the first two years of service academy curriculum is devoted to liberal arts subjects.
- In the junior and senior years, the proportion of formal instruction devoted to professional subjects increases significantly; the proportion of the academic load devoted to professional courses lies between 76 and 87 per cent.
- The junior and senior year are heavily laden with engineering sciences. As a result, there are few opportunities for liberal arts.

In the KAFA, the primacy of the basic science and engineering has long been retained mostly because the service academy system was entirely modeled after "West Point, which was enormously influenced by the French system."[18] Because of the heavy load of engineering courses contained in the KAFA curriculum, additional perspective as to the liberal aspects of its programs can be obtained by comparison with practice in engineering schools. Among the latter, the better programs typically require between twenty four and thirty credits selected from social science and humanities disciplines. However, frequently included among the latter are courses in accounting, management,

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18 John, P. Lovell also makes this point in the *Neither Athens Nor Sparta?* (The American Service Academies in transition), Bloomington; Indiana University, 1979, Chap. 1.

and economics, none of which can be considered liberal arts or sciences and all of which are considered professional instruction in this study. As a result, the truly liberal portion of sociohumanistic studies required in typical engineering programs represent about 17 percent of the total baccalaureate requirement.[19] In practice, this represents not more than one course per semester throughout a four-year program. By contrast, the liberal sociohumanistic courses required at the KAFA exceed this amount by a considerable margin- The KAFA requires 36 credits which is the about 23 per cent of total baccalaureate requirement.[20] Like most engineering curricula, the KAFA requires at least one social science or humanities course each semester. However, the heavy concentration of these offerings in the first two years gives the KAFA a distinct edge in the total time devoted to this category of liberal education.

At the KAFA, each entering cadets begins as a freshman and must carry the minimum common prescribed academic load each semester of his four years. As a result, KAFA graduates must actually acquire liberal educational experiences comparable to those in the prescribed curriculum, whether he complish it entirely at the academy or not.

Remarkable curriculum change attempts are currently being made at the KAFA. One of those is that the KAFA is going to reduce its common prescribed curriculum and major curriculum in order to give cadets a opportunity to select more electives. For majors in engineering and professional-technical fields, this will result in some reduction in the amount of liberal study to which they are exposed. However, cadets who contribute in social sciences or humanities fields will have opportunity for even more liberal learning than provided under the present program.

2. The Military Professional Program

Academic program of KAFA comprises only one portion of academy educational program. They exist side by side with physical education and professional military studies as categories of instruction equally vital to the purpose of this precommissioning institution.

Under the supervision of the commandant of cadets, the responsibility for military training is a function of the Department of Tactics, which has as its mission: to

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19 Korean Education Ministry, *Issue of Teacher's Certificates of Qualification* (mimeographed materials), 1985.

20 Include Korean I,II, English I,II,III,IV, second foreign language I,II. Introduction to philosophy, Introduction to law, Introduction to psychology, and Korean history.

provide a broad basic military knowledge; to develop the qualities and attributes of leadership; to instill a broad sense of duty and responsibility; and to develop high standards of physical leadership required of an Air Force officer.[21]

Specialized courses of instruction are given in military training during the cadet's four years at the Academy. The instruction is both academic and practical. Military studies are included in the curriculum to give cadets over-all knowledge of the Armed-services and the inspiration to follow bold and imaginative careers in the expanding space frontiers.[22] Each cadet visits the military installations to view the Armed Services in operation. On these trips, the cadet studies types of situations in which he will ultimately be a leader. The four years of military training are designed especially to develop leadership skills. The new cadets spends his first winter undergoing strenuous basic military training and physical conditioning. Upper-class cadets conduct this training to gain practical experience in leadership.

The pilot indoctrination program is designed to motivate the cadet toward an Air Force career and provide the foundation for future specialization in manned and unmanned aerospace systems. It provides him with theoretical and practical knowledge concerning navigation and pilot duties. The course consists of an introduction to the care and use of flying equipment and survival gear, flying safety procedures, emergency procedures, water survival, and orientation flights in a T-41 training aircraft.

Under the direction of the commandant, the head of the Physical Education Department supervises physical education drills and the intramural sports program. This program is designed for the cadet to cultivate his leadership characteristics, physical and mental ability, and skills through martial arts (Tae-kwon-do, Judo or Swordmanship) and a variety of sports.

Organized athletics have been an integral component of the socialization process at the KAFA since its inception, but the rationale for the heavy emphasis that athletics have received in recent years links athletic training to the martial virtues. It is argued that:

> the skills and attitudes developed on the athletic field- especially in contact sports- will prove beneficial to the cadet in the more critical later trials of combat.... Physical training and athletics help to cultivate a *can-do* spirit that is said to be vital to a military leader. [Ref. 20 : p. 256]

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21 Korean Air Force Academy, 1979-80 catalog.

22 16 credits are given to the military sciences and 4 credits are allotted to the military training

Each cadet is required to complete the core courses in physical education. Particularly in the martial arts, every cadet is required to obtain a black belt. Beginning in their fourth year, cadets are taught the fundamentals of soccer, swimming, gymanstics, tennis, volleyball, basketball, football, baseball, and handball. Throughout the remaining three classes, advanced instruction is given in each of these sports.

B. NONCURRICULUM PROGRAM

No discussion of relationship of various aspects of KAFA program to liberal education would be complete without mention of its noncurriculum elements. As discussed in chapter 2 in this study, the cadet's experiences at the academy have the purpose of achieving *Milton's ideal aim* of preparing young men "to perform justly, skillfully, and magnanimously all the offices, both private and public, of peace and war." While the first two deal with areas of knowledge and intellectual processes, the third is concerned with attitudes, character traits, and values- perhaps "the qualities that remain after all the facts which were learned have been forgotten". It is to the attainment of this third objective that the noncurriculum aspect of the KAFA programs contribute most. The program embraces the airmanship program and extracurricular activities.

One of the basic objectives of the KAFA is the development of characteristics and integrity in the members of the corps of cadets. This objective is attained primarily through the KAFA's noncurricular program. For the role socialization as a good officer, the KAFA adopts two control systems. One is the officer guiding system which consists of highly qualified officers with outstanding service recorders. They are chosen from the most competent Air Force officers. They are charged to conduct themselves so as to present a good model to the cadets and guide them to grow as good officers. The disciplinary system is designed to provide strong reinforcement of the value of duty, obedience, responsibility, and moral virtue which are the most highly respected values and personal characteristics in the KAFA.

The other is the set of self-governing activities. These are more important for the role socialization in the KAFA than the former. The purpose of these activities is to enhance self-control and to cultivate leadership. They consist of two systems: the Self - Service System and the Honor System. First, under the Self - Service System, the cadet corps is controlled by seniors who, by rotation, take the positions of command and staff. Second, under the Honor System, which is also operated by the cadets themselves, the system prescribes the Honor Code by which the cadet live.

The socialization aspects through the Honor System seem to be especially vital in the development of the personal qualities of character and leadership. Today the Honor Code is the most cherished possession of the Corps of Cadets. The Honor Code still adheres to its original meaning- that a cadet will not lie, cheat or steal. The code requires complete integrity of word and deed of all cadets and permits no deviation from these standards. Quibbing or evasive statements are not tolerated. The maintenance of these honor standards is the responsibility of each individual cadet, who is expected to report himself or any other cadet for violations of the Honor Code. These exacting standards are rigidly enforced and any intentional violation by a cadet is cause for his separation from the Academy.

The success of the Honor Code depends upon the Corps of Cadets. The Honor Committee, selected by cadets each year from members of the first class, interprets the code to the Corps, explaining the principles upon which it is based, and guards against violations. One of its most important tasks is to supervise the indoctrination of the new cadets in the Honor Code. The committee has no punitive powers, its functions being advisory and investigative. Official action on an honor violation is a responsibility of the Commandant of Cadets. The devotion of the Corps of Cadets to the Honor Code is especially strong. It is one aspect of the academy which set the KAFA apart from civilian educational institutions. The almost sacred regard of the Corps is exemplified by the words of the Cadet Prayer, which states, in part, "Make us to choose the harder right instead of the easier wrong, and never be content with a half truth when the whole can be won".

While drills, parades, studies, and classes consume most of a cadets' time, he has many opportunities to pursue his social and recreational interests. The spiritual and moral requirements inherent in leadership and command responsibility are also recognized as important factors in the modeling of character in young men. As a result, a well-balanced program has been established to provide all cadets with an opportunity for religious and moral growth. Attendance at the religious services on every Wednesday is mandatory. Much has been written on the question of mandatory attendance at religious services for the Corps of Cadets. The AirForce explains:

> Because the Academy accepts responsibility for the total development of the cadet-mental, physical, moral, and spiritual- and because faith is one of the foundation

stones of honor and integrity, every cadet is required to attend the religious services of his faith each wednesday.[23]

Extra curriculum activities are designed to allow the cadets to develop their unique hobbies or specific interests. The choice of activities is diverse. There are 28 organized extracurricular activities directed and administered by the cadets with the approval of the superintendent.[24] Although an officer is in charge of each activity, he acts only as an advisor. The indoor hobbiests may follow their interest in the Art, Camera, Korean chess, Calligraphy, and Literary club. The athletic enthusiasts have the Handball, Judo, Tae-kwon Do, and Rifle Club. Academically minded cadets may join the Audio, Radio, or Rocket clubs, or Foreign language club. Cadets with musical and acting talents will be interested in the broadcasting station, and Acting Club. Finally, there are the student government type activities such as Class committees, Ring and Album committees, and Honor committee.

Cadets of all classes may form their own activity if the interest is sufficiently great and they may join any club with approval of the specific club. Each cadet is urged to take part in one or more of these activities, for each does its part in making the four years' hard grind of study more worthwhile and a bit brighter.

A sense of personal integrity, habits of self-discipline, and an attitude of responsibility toward society are traits that are nurtured every day in the Academy environment and routine. Beginning with the vigorous training and indoctrination of *first winter training,* each cadet is impressed daily with their significance.

Within his dormitory area, on the parade ground, or in his social engagements, he is expected to respect and adhere to the highest standard standards of decorum and personal demeanor. At training exercises and on the playing fields, as well as in the classroom, he is urged to expand his best efforts in each performance. In his dealings with others, he is impressed by the perfect, example, and peer code with the highest standards of personal honor. Throughout his training, he is conditioned to acquire the sense of purpose, self-control, and ethical conduct demanded by the responsibilities of military command in a free society.

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23 ROKAF HQ (Education and Training Department), *Official Report on Religious Service* (mimeographed material).

24 Academic year 1988-89.

Probably the most eloquent expression of the over-all meaning of the KAFA's noncurriculum elements can be shown in the KAFA's motto: COUNTRY - PEOPLE - SKY. To carry out his charge each cadet must acquire many of the values and character traits generally associated with a liberal education. At the KAFA these become as much a part of the cadet as the uniform he wears, and they provide the personal *raison d'etre* for the formal knowledge and intellectual skills which he acquires.

V. LIBERAL EDUCATION IN THE CURRENT PROGRAMS

In examining the *liberal portion* included in the KAFA's education and training programs, data were gathered according to two major categories:[25] (1) liberal intention of individual courses; (2) methods of instruction. Specific descriptions of all liberal education areas at the KAFA would require more space than their value warrants. To avoid redundancy, the following sections present generalized descriptions of practices.

A. LIBERAL INTENTION OF INDIVIDUAL COURSE

The total academic program at the KAFA is designed to develop future Air Force officers whose minds are innovative, analytical, and resourceful. Eighteen liberal core courses are required of all cadets to give them a broad exposure to the fundamentals of basic sciences, humanities and the social sciences.

In this section the content of various courses of study is analyzed to describe their intended contribution to the graduate's liberal- orientation. Functional purposes served in the over-all curriculum, values and outcomes stressed in course organization, and professional applications incorporated in the subject matter are treated as factors of particular significance, most comments are directed toward courses in the common prescribed curriculum.

1. Basic Sciences

Since the KAFA inception, basic sciences have occupied more cadet class time than any other required subject area.

Mathematics and physical science courses at the KAFA are designed to provide a theoretical foundation for engineering studies. In addition, they are intended to acquaint cadets with the fundamental concepts and scientific principles seen as essential to an understanding of the physical world.

Common prescribed mathematics courses are designed to provide the conceptual skills and processes for expressing and evaluating quantitative relationships. Their content finds direct application in developing mathematical models for physical science and engineering concepts and for social science analysis. The discipline of mathematical

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25 Most information described in this chapter was obtained during the author's work with the Korean Air Force Headquarters as an education officer during 1984-86. On this occasion, the author had a lot of opportunity to interview numerous instructors of KAFA and collected representative course materials.

methodology is stressed. Still, calculation and problem solving are approached as practice in applying quantitative concepts, not as rote procedures.

The functions performed by chemistry courses are basic to the science and engineering sequences. These courses provide knowledge of the properties and behavior of physical elements which comprise our universe and serve as important vehicles for gaining familiarity with the thought processes and methodological principles of science. At the KAFA, it stress the quantitative processes used to analyze the nature of matter, the discipline of scientific experimentation, the qualitative changes which occur in matter, and the basic concepts of energy and equilibrium. In all courses, cadet attention is directed toward fundamental concepts and basic principles. Emphasis is placed on their logical development, and a concerted effort is made to relate each newly considered concept back to basic understandings.

The development of the physics curriculum in the past thirty-five years at the KAFA has been driven by the need to educate all Air Force officers in a general background of the modern technology. Accordingly, the study of physics is projected as the conceptual framework for all physical and engineering sciences. Basic physics instruction stresses the classical laws describing universal physical relationships, the principles of energy conservation, and the fundamental concepts of force and motion. All courses use mathematical models, through the calculus, to express physical phenomena. They emphasize theoretical derivations of descriptive hypotheses and their verification through an experimental discipline.

All the basic science courses discussed thus far are quite analytical in their approach. In general, however, the KAFA's science courses deliberately avoid major attention to professional applications. Usually these are introduced only for illustrative purpose by individual instructors. Exceptions exist in the small units on computer utilization provided in lab courses. Despite the general-purpose, the KAFA courses do not devote much attention to the theoretical or philosophical roots of scientific knowledge. Fundamental concepts and the principles of quantitative method are stressed throughout, but a conscious desire to provide a basis for engineering competence leads to considerable emphasis on problem solution.

2. Social Sciences

Common prescribed courses in economics, psychology, national ethics, and law are all introductory courses at the KAFA. In general, these courses merely introduce fundamental theoretical principles and provide basic knowledge of institutions and issues. The over-all aim of this broad-brush treatment is to expose the cadet to different means of analyzing the problems of society.

All social science courses are intended to provide a foundation for later course work, although the nature of the relationship between the foundation element and what follows varies widely. Even though its primary purpose is to provide the cadet with leadership potential, one semester course of psychology is intended to provide theoretical bases for character and for the human relations aspect of management studies. The Korean economics (introduction to economics) and government (introduction to politics) courses comprise a sequential foundation for the professionally oriented social science work of the upper classes.[26]

Each social science field is approached independently, as a unique field of study with its own methodology, thought processes, and subject matter.

The KAFA's economics course stress both macro economics and micro economics within a framework outlined by national security problems. In the process, cadets become familiar with concepts basic to economic analysis and gain experience in the use of these tools in examining vital public issues.

All social science courses are intended to help liberalize the cadet's outlook on society through providing insights into the different aspects of his social and professional environment. By encouraging cadet awareness of pressing problems which exist in each aspect, the KAFA encourage its graduates to acquire a more balanced view of the society they will serve. Of the social science courses considered *liberal,* the law courses give extensive attention to the liberal orientation of cadets. It is apparent that an Air Force officer needs to have a working knowledge of the legal principles that bear most directly on his authority and responsibility. The provision of that basic knowledge is one of the purposes for including law in the common core curriculum. The KAFA core law courses (introduction to law and aviation law) may thus be viewed in part as pre-professional in nature (for the military profession, not the legal profession), much like the teaching of business law in a business school, or copyright law in a college of journalism.

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26 *Introduction to economics* and *Introduction to politics* courses are terminal insofar as the current common prescribed curriculum is concerned.

A second equally important purpose for the law courses is the study of law as a part of a liberal education. Johnson comments:

> Much of the value of liberal education lies in the exposure of the student to different methodologies, or different ways of thinking about things. The legal system has generated a pattern of thought usually referred to as *legal reasoning,* which is a conscious attempt in decision-making. [27]

The legal system performs essential functions in a free society, some of which are the peaceful and fair settlement of disputes among peoples, the control of anti-social behavior, and the protection of constitutional liberties. The study of the functions played in society by the judicial process in its many forms is useful in producing an informed citizen in the same manner as is the study of history, economics, or of other government institutions.

3. **Humanities**

Humanistic education should enrich the individual. It should contribute to his freedom, not condition him. [Ref. 6 : p. 65] In a sense, all common prescribed humanities courses seek to highlight the ideas, values, and aspirations that have motivated man through the ages. The study of history, literature, philosophy, and language each contribute to this goal in its own way. The KAFA approachs its survey of Korean history as a foundation for the social science sequences. These courses are intended to provide developmental perspective for Korean political and economic situations and for relations between present world powers. A concomitant function of this latter perspective is to place the evolution of military institutions and techniques in a realistic and well-proportioned context.

The portion of Korean instruction devoted to communication skills is regarded as an essential foundation for the entire social science and humanities curriculum. Different examined approaches to the expression of ideas, development of arguments, and interpretation of the thoughts of others are expected to find direct application in a variety of subject-matter fields. "The study of literature repuires a student to assimilate a great deal of information that he will ultimately need for understanding (appreciation is desirable but not essential) literary works." [Ref. 6 : p. 63] The freshman literature of KAFA, however, is basic only to subsequent literature courses. But it, too, is intended to improve the cadet's ability to comprehend, clarify, and express ideas, through outstanding examples of literary style. Theory and example of writing style are stressed.

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27 Air force Academy, The first twenty-five years, 1978, p. 234.

Furthermore, in the KAFA the Korean literature course is intended to promote a continuing literary interest, a modest facility for literary criticism, and greater sensitivity to human values and relationships.

Courses that are not designed for majors are usually regarded as *service courses,* a term that somehow carries a pejorative connotation. [Ref. 6 : p. 72] Though no department likes to consider itself primarily involved in providing service courses, the philosophy function at the KAFA quite clearly is a *service* function in the sense that every cadets receive some exposure to philosophy but there is no attempt to offer any advanced course in philosophy.[28]

Foreign language instruction emphasizes conversational skills. Comprehension and speaking are given top priority, with reading and writing given only secondary attention. Of course, the degree of facility attained differs among languages, since each receives equal time, regardless of difficulty. Irrespective of language, however, insights into cultural roots, social behavior, and mores of foreign peoples comprise auxiliary objectives of foreign language instruction. Although all courses include readings in the language which deal with these topics, they serve primarily as a vehicle for comprehension practice.

English and Second foreign language courses seem to be the only KAFA's humanities work which stresses disciplinary processes. Preparation of frequent themes and constant practice in hearing and speaking the language involve academy cadets directly in literary expression and communication.

By contrast, the history and philosophy courses are surveys, which convey only basic knowledge and some familiarity with new ways of thought. The rigor of historical scholarship or philosophical discourse receives almost no attention in the common prescribed humanities sequences.

B. INSTRUCTION METHODS OF LIBERAL SUBJECTS

Although the U.S. Military Academy at West Point and KMA had a strong influence on the early teaching methods at the Korean Air Force Academy, the KAFA developed its own variations of the traditional teaching approach.

The primary factor in determining the nature of instruction methods in the KAFA classroom is the subject matter. Different kinds of knowledge and intellectual processes

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28 Introduction course in philosophy is the only formal philosophy requirement of current curriculum.(Academic year 1988-89).

render different methods more effective than others, regardless of a consistently small class size.

1. **Basic science**

Mathematics is the principal discipline for which small classes were originally adopted by KAFA. Small classes enable the instructor to examine closely the efforts of each cadet and to work individually with him, if necessary, to assure comprehension of fundamental mathematical principles and processes. The mathematics method which can be observed most often at the KAFA is the instructor's explanation of theory in response to specific cadet questions. Often one cadet's question will precipitate others until a rather detailed explanation is developed. In addition, cadets are frequently called on to explain specific theoretical principles or to demonstrate a particular proof, frequently revealing areas of common misunderstanding or uncertainty. These are then clarified for the benefit of the entire group. In review sessions, instructors demonstrate problem solutions representing key mathematical concepts, frequently calling on cadets to suggest pertinent operations and equations and to identify significant factors in the problem analysis.

The KAFA's instruction in the physical sciences includes considerable computation and makes significant use of the language of mathematics. In past decades this fact has contributed to a tendency to follow methods similar to those appropriate for mathematics. Now, however, the teaching of science courses is characterized by considerable variety. Even though the impact of mathematics methods is strongest, the science classroom approach is left to each instructor. As in mathematics classrooms, small classes enable the instructor to give more attention to the problems of individual cadets. Specific difficulties can be observed during exercises worked by cadets at the blackboard or at their desks. Similarly, there is ample opportunity for direct questions initiated by either the cadet or the instructor. As a result, difficult scientific concepts can be clarified through instructor explanations specifically responsive to cadet concerns, and in describing complex theories, instructors can make quick check of cadet comprehension before moving from one conceptual step to the next. Instructor lectures, usually for only a portion of the class period, are also a common method in academy science teaching.

Methods used in physical science laboratories at the KAFA are very general. Laboratory periods are two hours in length and scheduled irregularly to illustrate particular topics studied in the regular course work. "The instructor must be particularly

careful to define the educational objectives of laboratory instruction, which is essentially a form of independent study with readily available tutorial help." [Ref. 6 : p. 23]

At the KAFA, fundamental chemistry laboratories are preceded by cadet preparation of preliminary reports, which describe the experimental objectives and processes and provide opportunity to go through the pertinent calculations, based on hypothetical sample data.

Observations to be made and values to be determined in each experiment are outlined in laboratory manuals, and the cadets receive very close supervision from their instructor on both experimental procedure and laboratory technique. Physics laboratory methods are more nondirective.

Although experiments are structured according to procedures outlined in standardized instructions, preliminary reports and sample calculations are not employed. Data must be collected and evaluated without benefit of a standard manual procedure. Instead of a manual, data readings, theoretical and procedural notes, and experimental analysis are kept in a notebook by each cadet. In both physics and chemistry experiments, formal reports must be developed and submitted by each cadet. Reports are organized and written individually, and they emphasize those factors seen as most significant by each cadet. Knowledge of methodology and of analytical concepts are the primary cognitive forms evaluated, since all data for necessary computation are supplied.

2. Sociohumanistic science

In sociohumanistic studies, the instructor is provided with great methodological latitude at the KAFA.[29] It is in these courses, more prevalently than in other subjects, that various discussion methods are employed. Such methods are quite appropriate for the controversial and highly interpretive nature of most social science and humanistic subject matter. Small class sizes are ideal for discussion, because they permit an easy exchange of views both between cadets and between cadet and instructor. Guided discussion, wherein the instructor leads the group into particular preselected topics, enables him to focus instruction on the specific issues where depth is desired and to emphasize key points in the cadet's reading.

Direct questioning, a frequent adjunct to the discussion process, enables the instructor to spot-check cadet knowledge of facts essential to effective discourse and to

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29 One of the most prevalent means used to analyze KAFA curriculum has been to compare the percentage of credit hours apportioned among basic sciences, engineering sciences, social sciences, and humanities. Frequently, the last two disciplinary areas have been grouped as *sociohumanistic sciences.*

determine whether or not other cadets agree with a particular interpretation. Of course, the questioning process made possible by small classes also enables an instructor to test cadet comprehension at key points in his own exposition and explanation. As with other disciplines, the degree of formality of the interchange in social science and humanities classes depends on the extent of cadet familiarity with the material being treated.

Despite the popular tendency to link small class with the discussion method, the use of lectures and demonstrations is growing at the KAFA sociohumanistic science courses. There are several reasons for this. Academy instructors are better prepared academically and, therefore, are better equipped to explain the theories, events, or issues around which lectures normally are built. Textbooks abound in all fields and, as teaching devices, are of better quality than was the case a decade or so ago. Such books not only convey the essential issues more clearly to the cadet, but they better arouse his interest in new information and interpretations, furnished in part through lectures. Thus, there has been more opportunity provided for effective lectures and demonstrations. The KAFA lecture practices take a variety of forms. For example, history courses have incorporated a series of illustrated lectures, usually to highlight the major events of topics. Classroom lectures are usually quite informal, and they are frequently interrupted by cadet questions. Some are carefully planned in advance, while others may by initiated by questions requiring rather detailed responses.

3. Language

Drill sessions and repetitive exercises are quite common in English and Second foreign language instruction. Since acquisition of oral communication skills is the primary aim of its language courses, the KAFA employ these methods at the basic and intermediate levels of instruction, and the small class contacts between cadet and instructor enhance its effectiveness. Repetitive drills which use these forms provide the primary means to conversational fluency. On the other hand, foreign language major courses make great use of various forms of literary expression and deal largely with substance, ideas, and form. Cadets in this major are required to use the language constantly but as a means of full expression and analysis based on extensive reading, not in drills.

Classroom activities vary from informal conversation in the language to relatively formal question and response patterns between the instructor and individual cadets. The balance struck among these variations depends on the skill levels of the classroom members and their familiarity with particular vocabulary or grammatical patterns.

Usually, the balance of the class hour is divided between correction and discussion of board work, reading aloud from a text, and role-playing conversations based on pattern sentences.

Of all the liberal disciplines in the KAFA curriculum, foreign language seems to be characterized least by methodological differences among instructors. All use about the same methods, and they all vary their procedures frequently. Pattern drills are used to build up gradually the proper forms of expression. Question and answer dialogues, stressing the desired grammatical patterns and gradually leading the cadet into more complex sentences, provide the major vehicles for instruction.

VI. DISCUSSION FOR FUTURE DEVELOPMENT

It is usually believed that the KAFA has a special mission to perform, and that while every effort should be made to ensure that the academic portion of its program is of the highest excellence, it should not attempt to become the equivalent either of a civilian engineering school or of a civilian arts college. Certain elements of each must become a part of its curriculum, but the unique function of the KAFA is to produce officers for the Air Force who have a sound, basic education in both science and the humanities.

While certain non-curriculum matters such as the administrative organization and the academic atmosphere are of prime importance in the education of the cadet, the center of attention is upon the organization of the curriculum, the method of instruction, and the quality of faculty.

A. EDUCATION AND TRAINING PROGRAM

1. Curriculum Program

In the sections which follow, the author makes certain specific recommendations which he believes will strengthen the KAFA curriculum offerings without major changes in the present allocation of time to the military studies, physical education, and academic parts of the curriculum.

It is certain that in matters of detail involving course content the teaching faculty are the best judges of what is proper and what is feasible. Therefore, the recommendations should be considered as suggestions for an overall plan of reorganization of the curriculum and implementation should be left to the faculty.

In the discussions and recommendations which follow, certain basic assumptions include:

- The KAFA's curriculum cannot be considered on the same terms as those of engineering schools, liberal art colleges, or universities. The adequacy of the KAFA curriculum must be judged in relation to its mission.
- The KAFA course will continue as a four year program.
- Recommendations of this study are only one step in continuous evolution of a curriculum which must be re-examined constantly in our era of rapidly changing technological development.
- It is necessary to retain a reasonable balance among the military professional, airmanship, and academic portion of the curriculum.

a. Humanities Program

The present humanities program, totalling approximately 30 credits, is divided among the study of Korean, history, and of foreign languages. In neither area does a cadet now acquire a depth of knowledge in one field, or a proficiency in one language, comparable to that of a student in a civilian college who takes a minor in one of these areas. The problem is whether the same 30 credits could not be put to better use in providing the essential elements of a liberal education for each cadet.

This study takes the view that a strong program in the humanities and social sciences is an indispensable part of the liberal education of an Air Force officer. Such a program should at a bare minimum insure that every officer: (1) have a reasonable command of the Korean language, in both written and oral communication, (2) possess a firm group of the essential principles underlying our free society and the Korean way of life he is asked to defend, (3) be acquainted, at least in broad terms, with the development of civilizations and societies other than his own, and (4) be provided with both the stimulus and the equipment for further reading and study on his own.

It is believed that, the present humanities program accomplishes these goals in some measure, but that with a minimum of reorganization and redirection of effort it could provide an even greater impact upon the character and the thinking of the cadet.

With a view to suggesting the broad outlines for such a reorganization, the present foreign language requirement under which each cadet studies an English and Second foreign languages of his choice during his first two years at the KAFA, could be examined. The point is that language study would be more appropriate, and better motivated, during the last two years in which a cadet may start a new language of his choice. However, it is also recommended that the study of foreign language be optional.

In this context, a total humanities offering could be reorganized to provide: (1) a broad basic unit of study in the first two years required of all cadets and (2) greater depth of study in the last two years through choice among a series of additional credits in the last semester.

It is believed that a reorganization along the line here suggested will strengthen the humanities work at the KAFA. The basic 30 credits requirement during the first two years retains the best elements of the present humanities offering.

The proposal places the Air-war history course early in the program, where it can help motivate the cadet toward a professional career in the Air Force. It is also believed that by allowing time to put this study in the broader context of World history a sounder historical perspective can be achieved. Accompanying this course would be

a new one on the Evolution of Korean Institutions which is visualized as combining the best elements of the present courses in Korean History, National Ethics I, and Introduction to Economics. It is possible, within a historical framework, to emphasize particularly the development of the essential principles which underlie political and economic institutions.

The present course in Korean I and Korean II, which are regarded as one of the most successful and stimulating courses in the curriculum, is retained as a requirement for all cadets.

The KAFA's approach to liberal studies may also be examined according to the relative attention which it give to the depth and breadth of study. Certainly, the KAFA cannot be said to attain significant depth in the common prescribed program. In fact, the search greater depth has been under way at the KAFA for many years. In addition, various attempts were made to accelerate cadet progress in the introductory but important fundamental courses. But approaches were unsatisfactory. The price of bona fide subject-matter major field of concentration often was a badly overloaded academic schedule. As a result, for the ambitious cadet, less time remained in which to read and study for a greater number of courses. Thus, in order to obtain thoroughness in certain areas of study, others had to be sacrificed, together with opportunity for the individual thought and analysis on which truly liberal learning depends.

In the upper class options, a cadet will have an opportunity either to take two years of an Foreign language or to continue at an advanced level a study of the language. If he does not exercise this option he has a choice among several others which will provide some depth of study in one of the other fields of the humanities or social sciences. All the courses proposed have been taken from common prescribed subjects now being offered by the Department of Korean, History and Foreign language. This has been done to demonstrate that such an arrangement is feasible within the present structure and capacities of the humanities staff. It is hoped that additional options may be made available as staff and library resources increase.

The proposed reorganization would provide advanced work in selected areas, if it is supplemented by additional elective work in the same field. A cadet would certainly be much more nearly prepared for graduate study in one of these fields than he is at present. In addition, the author calls attention to the fact that the opportunity to teach more advanced work should help the humanities departments attract and hold an outstanding staff.

The following recommendations drawn from the discussion may benefit the KAFA's future curriculum revision.

- A basic humanities program of 30 credits in the first two years should be required of all cadets for their liberal orientation.
- An additional credits sequence in one of several options, including foreign language, should be required in the last two years.
- Second foreign language study should be moved to the last two years of the curriculum and be made optional.

b. Basic Science Program

Perhaps a large part of the success of KAFA's graduates may be attributed to the basic science program, which from the very beginning has been constantly revised and improved to reflect changing needs. Although course number has been changed and class hours have been modified, the subject matter has remained somewhat constant: Calculus continues to comprise the largest bulk of fundamental mathematics sequence. General physics and chemistry have always been in the curriculum since KAFA's inception.

The present basic science program, totalling 21 credits, is divided among study of Physics, Chemistry, and Mathematics. As discussed in previous chapter, these department have the responsibility of providing for every KAFA graduate: (1) strong background in basic mathematics and physical sciences. (2) the fundamental concepts related to the properties and nature of materials.

An integrated sequential study in the engineering sciences, which uses to the utmost the preceding foundation courses in mathematics and the physical sciences, is necessary. Courses should be taught so as to continue the development of the cadet's ability to formulate physical problems in mathematical terms. In general, there is a considerable similarity in the conceptual understanding and analytical treatment among the various engineering sciences.[30] Therefore, when a cadet gains a thorough understanding of the generalizations and systematic approach in one field, he should then be able to apply these same analytical methods to the solution of problems in widely different fields.

Mathematics should continue through the first two years and include some statistics and expanded coverage of differential equations. This can be done by using

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30 N. L. Gage and David C. Berliner support this point in their work: *Educational Psychology,* Rand McNally College Publishing Company, 1975, pp. 50-53.

elective courses of the upper class years. Unless this can be done the improvements which can be made in the present science sequence are limited. Frequently, the introductory physics course for engineering students requires calculus as a prerequisite. [Ref. 6 : p. 72] Thus, starting calculus earlier would make it possible to begin physics during the second semester of the fourth class year. Since classical physics is so important as a basis for the majority of engineering applications, care should be taken to assure that new developments in modern physics do not encroach on the time allotted to the classical physics course. It is desirable, therefore, that a separate course in modern physics can be made a part of the basic curriculum.

Excessive duplication of coverage should be avoided. However, it is not desirable for each course to be a complete package in itself. The cadet should be encouraged to carry over concepts and information from one course to another.

Except for minor shortcomings, the present sequence of courses in basic science area seems to be well designed and to offer adequate coverage in these fields. A suggested sequence of courses in basic science area which consistent with these ideas is given Table 7.

Table 7. PROPOSED BASIC SCIENCE SEQUENCE

SEMESTER	COURSES	REMARKS
Freshman I	Calculus I; Linear algebra; Chemistry and experiment I	
Freshman II	Calculus II; Physics and experiment I; Chemistry and experiment II	
Sophomore I	Physics and experiment II; Differential equations	
Sophomore II	Engineering mathematics; Statistics	

The proposed program is almost similar to current program except minor difference in sequence. Determination of the exact course content and the necessary credit hour allotment in relation to other parts of the curriculum can be done by the KAFA faculty. The recommendations with regard to these notions are as follows:

- The emphasis in the mathematics, physics, and chemistry courses should be on fundamental concepts.
- The two years sequence in mathematics should start with an integrated course in calculus and linear algebra and include statistics and an expanded coverage of differential equations.

- Physics should be started in the second semester of the fourth class year and be allotted sufficient time to permit a separate course in modern physics in the first semester of the third class year.

2. Noncurriculum Program

There are many sources which provide the Air Force with its officer corps but only one, the KAFA, devotes its entire effort to this objective. If the product of each of these sources is actually the same, it is reasonable to question the need for this specialized institution.

The tradition, the precept and example set by its assigned career officers, and the indoctrination program into airmanship, continuing throughout the entire four year period, all add special emphasis at the KAFA to the development of the military character of the cadets. Perhaps the most important influence of all in the indoctrination of the cadet is the precept and example of the officers assigned throughout the organization of the KAFA. Therefore, it is important for the Air Force to insure that only the most competent and highly qualified officers with outstanding records are assigned to duty at the KAFA.

It would be highly desirable if many officers could be assigned to the KAFA for longer periods than the present one or two years tours without jeopardizing their future careers. This is particularly important in the case of senior officers who might have an important voice in the setting of academic policy.

Inadequate or unsuitable educational procedures will reduce the effectiveness of the educational process. A military atmosphere may create conditions which are in conflict with the academic atmosphere so necessary for the development of intellectual curiosity and a mind capable of imaginative thought. Competition for the limited time available to cover the many important areas of the required educational and training program may lead to conflict of interest and to misunderstandings between the major parts of the KAFA organization. Means should always be sought to break down areas of misunderstanding so that no artificial isolation of any group from the whole faculty occurs, and so that high morale of the entire faculty may be preserved.

The stringent scheduling and regulation of the cadet's time militates against the establishment of a good academic environment. Study hours closely scheduled often preclude the intellectual pursuit of a problem until the solution is achieved. In addition, the present procedures which restrict access to the library during scheduled study periods tend to discourage its free use.

The physical education and competitive sports programs may deprive some cadets of necessary liberal study opportunity unless careful management of the programs insures an acceptable balance of allotted time. Therefore, the closest cooporation between those officials responsible for the scheduling of the cadet's time and those responsible for his professional and academic training and education will be required to minimize interferences.

In this context, the possible recommendations are as follows:

- Appropriate steps should be taken to insure that only the most competent and highly qualified officers with outstanding service records be assigned to duty at the KAFA.
- The possibility of misunderstanding between the major departments of the KAFA organization should be recognized. Appropriate steps should be taken to promote the closest cooperation between them so that there is the least possible interference with education and training times.

B. METHODS OF INSTRUCTION

The method of instruction in general use at the KAFA involves rigid adherence to course outlines, recitation and frequent tests. Theses procedures are designed to give cadets as nearly uniform instruction as possible. This uniformity of treatment has been considered important since course grades are an integral part of a detailed formula which determines a cadet's relative position upon graduation.

The method of instruction in most general use is quite efficient for the imparting of factual information but is not so satisfactory for the development of judgment, initiative and reasoning power. Of course, it is believed that the development of these qualities is of far greater importance than the possession of a fund of information which may soon be forgotten. This will be particularly true in the case of those cadets who may later be sent to graduate schools. The rigid adherence to course outlines and the requirement of frequent grades tends to stifle the initiative of the instructors. The program at the KAFA is very crowded and it is the opinion of the author that every possible moment should be devoted to instruction and that the time devoted to testing should be reduced. The cadet's schedule is very rigid and a large portion of his available study time is broken into small units. A large portion of the available study time is in such small units that it is relatively ineffective in courses which are designed to develop depth of understanding and reasoning power.

If the present small class sizes are to be retained, methods of instruction which encourage a maximum of class participation should be used.

The following recommendations may benefit the KAFA education:

- Courses at all levels should be designed to emphasize understanding of basic principles and the development of reasoning power.
- More freedom should be given to instructors by permitting departure from the rigid system of course outlines.
- A greater proportion of classroom time should be devoted to instruction and less to measurement of achievement.
- The tendency toward regimentation in the classroom should be recognized and appropriate safeguards be instituted to insure an academic environment conducive to full intellectual development.

C. FACULTY AND ADMINISTRATION

It is the opinion of the author that there are no factors which so greatly influence the quality of the work of an educational institution as the qualification and morale of the faculty. A faculty of adequate qualifications and high morale with responsibility for the planning and administration of the academic program can be expected ultimately to solve satisfactorily the details of the many academic problems which now confront the KAFA.

As discussed in the previous chapter, the teaching competence of present KAFA faculties generally is quite good. But as greater depth of study and greater opportunity for subject-matter concentration become commonplace, the demands on faculty competence also will increase. Deeper knowledge of his subject, more extensive reading, and greater awareness of current developments in his field must be characteristic of the KAFA faculty member whose teaching responsibilities include courses beyond the introductory level.

At the KAFA, approximately more than half of the faculty in departments teaching in liberal subjects matter are junior officers.[31] The paramount implication of present faculty structures for future KAFA programs is that increasingly demanding courses in potentially liberalizing subjects may have to be entrusted to largely inexperienced instructors.

At the present time KAFA faculty structure cannot ensure that its liberal departments are staffed by a reasonably large portion of well-experienced subject-matter specialists. At the KAFA, most permanent department heads teach very little and are occupied by administrative duties to the extent that they have only limited opportunity to participate directly in course planning.

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31 It is quite noteworthy that, until very recently, the KAFA recruited major part of faculties from so-called *short-term- service* officiers usually served three or four years.

In this context, it is highly desirable that a substantial proportion of the academic faculty be career officers and that these men be capable of commanding the unquestioned respect of the cadets from the standpoint of character, military attributes, intellectual outlook and academic preparation. It would be highly desirable if it were possible for at least a few well qualified officers who have developed a real interest in education to be able to make a career of education within the Air Force.

The related recommendations are as follows:

- Officers assigned to teaching duties in the academic departments should have appropriate qualification, including academic training beyond the level of the courses to be taught. Their military qualifications should be such as to command the unquestioned respect of the cadets.
- The Air Force should use only the most competent and highly qualified officers and civilians as instructors at the KAFA.
- The responsibility and authority for the operation of each of the academic divisions (Social science and Humanities, and Basic science and Engineering) and each of the departments within those divisions should be vested in a properly qualified career individual (officer or civilian), who should be in a responsible place for an extended period of time.

VII. CONCLUSIONS AND RECOMMENDATIONS

The purpose of this study was essentially to analyze the liberal education portion within the KAFA education and training programs.

The first research question addressed in this study was: What is the over-all structure of the current education and training programs?

The findings with regard to this question are as follows:

1. If all the concerns about education and training are considered, the KAFA programs seem evenly divided between curriculum and noncurriculum program.
2. The current programs are three-fold: they consist of the Academic program, the Military professional program, and the Airmanship program. Not only academic education, but also military training, service indoctrination, physical education, and athletics contribute to the total program of the Air Force officer preparation.
3. It is possible to divide the current academic program into two phases: professional studies and nonprofessional studies. Little formal instruction is provided in professional subjects during the first two academic years. In the junior and senior years, however, the proportion of formal instruction devoted to professional subjects increases significantly.
4. The first and second years are heavily laden with engineering sciences and professional studies. As a result, there are few opportunities for liberal education.
5. Noncurriculum aspect of the KAFA programs are especially important in terms of development of characteristic and integrity of cadets. Especially the socialization aspect through the Honor System seems to be vital in the development of the personal qualities of character.

The other question addressed in this study was: What are the aspects of the current programs with regard to liberal education?

The following are the principal findings:

1. The present balance between professional courses and courses related to liberal orientation is roughly reasonable. Approximately one-third of the total credit hours are devoted to liberal core courses.
2. The liberal intentions of individual courses which are categorized into liberal arts or sciences are very sound. Their intended contributions to the graduate's over-all education are roughly correct.
3. The current broad form and sequence of the academic program for cadet's liberal orientation is adequate and should be retained with only minor modification for the foreseeable future. Minor problems of sequencing exist, particulary in study of foreign language and basic sciences of fourth and third class.
4. The KAFA faculty structure cannot ensure that its liberal departments are staffed by a reasonably large portion of well-experienced subject- matter specialists.

In the previous chapter, specific recommendations were proposed as suggestions for an overall plan of reorganization of the educational program. In addition, the following general recommendations drawn from the study may benefit the Academy education:

1. Despite the concerns of early flying training, the KAFA educational and training course should continue as a real-full-four-year program.
2. The KAFA's educational program should not be considered on the same terms as those of contemporary civilian colleges or universities. The adequacy of the curriculum should be judged in context of its mission. A reasonable balance among the military professional, airmanship, and academic portion of programs should be retained.
3. Efforts should be made to provide larger numbers of cadets than in the past with opportunities to design their own programs of study.
4. External participation should be encouraged in reviewing the educational policies and evaluations of the KAFA. The members should be chosen for their educational expertise.
5. Policies should be altered to permit and encourage tours of duty for officer longer than the current two to three years. This policy should be extended to the point at which it would be possible to develop a group of officers who make a career of education within the Air Force.

In conclusion, the author wants to concur with the following statement made by USMA Academic Board:

> The Academy owes its students something more than the mere technical preparation of military specialist. A portion of its instruction should be devoted to broadening their general intelligence and to training their minds in order that they may take a position among educated men which shall be creditable to the military profession.[32]

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32 Statement of the Academic Board, *in Report of the USMA Superintendent,* 1966, p. 11.

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